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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,553	01/24/2002	Jong-Hyuk Lee	P56537	5620
7590	07/29/2004		EXAMINER	
Robert E. Bushnell Suite 300 1522 K Street, N.W. Washington, DC 20005-1202			PATEL, NIMESHKUMAR D	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/053,553

Applicant(s)

LEE ET AL.

Examiner

Holly R. Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 7,8,32-35 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-31 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 13-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on 5/13/04, has been entered and acknowledged by the Examiner.

Claims 34-35 have been entered.

Claims 1-31 have been amended.

The Specification, Drawings, and Abstract have been amended.

### ***Election/Restrictions***

Applicant's election of traverse of Group I in the response dated 5/13/04 is acknowledged. It is noted that Application file record as a whole reflects that the Applicant does not challenge the Examiner's assertion that the inventions of Group I and II are distinct. Accordingly, the Examiner has established a good and sufficient showing that the invention of Group I and Group II are distinct.

The Applicant traverses the assumption that sufficient burden exists on the Examiner in the prosecution of Groups I and II together. The Examiner's reasons for establishing burden are that a separate search would be required for both groups. This is evident in the fact that the groups have obtained separate classification in the art. This statement properly satisfies the criteria for establishing undue burden in accordance with MPEP 808.02(a), therefore, Applicant's traversal of the restriction requirement is not found persuasive.

Newly amended claims 7-8 and 34-35 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: These claims are

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directed to a method of manufacturing a filter layer, which would be classified in 427/164. The filter layer disclosed in the device claims (Group I) could be made by an alternative method such as drying the filter layer at 200 degrees Celsius instead of room temperature.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 7-8 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanak (USPN 4,157,215).

In regard to claim 1, the Hanak reference discloses a filter layer made of nano-sized metal particles distributed in a medium possibly consisting of an oxide (Column 6, Lines 40-67). The medium is made of particles. The metal particles are said to be between 10 and 40 Angstroms, which is between 1 and 4 nanometers (Column 6, Lines 54-56). It is an inherent property of the display device disclosed by Hanak that a surface plasma resonance phenomenon will occur and absorb light at predetermined wavelengths.

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The Examiner notes that the claim limitation of “coated and adhered to “ is drawn to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

In regard to claim 2, the Hanak reference discloses that the metal is selected from a group including transitional metals (Column 6, Lines 59-64).

In regard to claim 3, the Hanak reference discloses that the metal is Ti, Zr, Ag, Pt, Ni, Cr or W (Column 6, Lines 59-64).

In regard to claim 4, the Hanak reference discloses that the medium is either SiO<sub>2</sub> Al<sub>2</sub>O<sub>3</sub>, or TiO<sub>2</sub> (Column 6, Lines 63-67).

In regard to claim 6, the Hanak reference discloses that the metal particles are in a range of 10 to 40 Angstroms, which is 1 to 4 nanometers (Column 6, Lines 54-56).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanak (USPN 4,157,215).

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The Hanak reference discloses all the limitations of claim 1 above. The Hanak reference discloses the claimed invention except for the filter layer being composed of an amount of metal particles in the range of .001 to .5 mole percent on a basis of the oxide particles. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to create a filter layer with the amount of metal particles being in the range of .001 to .5 mole percent on a basis of the oxide particles, since discovering an optimum value of a result variable is considered within the skills of the art.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 9-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, and 6 of U.S. Patent No. 6,479,928 B1.

Although the conflicting claims are not identical, they are not patentably distinct from each other because:

<u>Application</u>	<u>USPN 6,479,928 B2</u>
9	1,4
10	1,4
11	1,4,6
12	1

In regard to claim 9, the instant application discloses a display with at least one filter layer comprising nano-sized metal particles and oxide particles. The '928 patent discloses a CRT with more than one filter layer comprising nano-sized metal particles in a dielectric solution. The dielectric matrix can be silica, titania, zirconia, and alumina. The dielectric matrix is made of particles. The '928 patent discloses a CRT with more than one filter layer comprising nano-sized metal particles in a dielectric solution formed on an inner surface of the face panel and a phosphor layer formed on the filter layer. The '928 patent discloses that the filter will absorb light at predetermined wavelengths.

In regard to claim 10, the instant application discloses a CRT with at least one filter layer comprising nano-sized metal particles and oxide particles on the inner surface of the face panel and a phosphor layer on the filter layer. The '928 patent discloses a CRT with more than one filter layer comprising nano-sized metal particles in a dielectric solution formed on an inner surface of the face panel and a phosphor layer formed on the filter layer. The dielectric matrix can be silica, titania, zirconia, and alumina. The dielectric matrix is made of particles. The '928 patent discloses that the filter will absorb light at predetermined wavelengths.

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In regard to claim 11, the instant application discloses a filter layer including a plurality of oxides and nano-sized metal particles. The '928 patent discloses at least one dielectric selected from silica, titania, zirconia, and alumina. The '928 patent also discloses that the filter layer is made of more than two different metals so that the filter has more than two absorption peaks at more than two different wavelengths.

In regard to claim 12, the instant application discloses that the filter layer includes a plurality of filter layers. The '928 patent discloses at least one filter which means that there can be a plurality of layers.

### *Allowable Subject Matter*

7. Claims 18-31 are allowed.

Regarding claim 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 18, and specifically comprising the limitation of a CRT with two filter layers made of nano-sized metal particles adhered to oxide particles, one on the inside of the display panel and one on the outside.

Regarding claims 19-22, claims 19-22 are allowable for the reasons given in claim 18 because of their dependency status from claim 18.

Regarding claim 23, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 23, and specifically comprising the limitation of a PDP with a filter layer comprising nano-sized metal particles adhered to oxide particles with a second dielectric layer disposed on the filter layer.

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Regarding claims 24-25, claims 24-25 are allowable for the reasons given in claim 23 because of their dependency status from claim 23.

Regarding claim 26, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 26, and specifically comprising the limitation of a PDP with a third dielectric layer disposed on the filter layer comprising nano-sized metal particles adhered to oxide particles.

Regarding claims 27-28, claims 27-28 are allowable for the reasons given in claim 26 because of their dependency status from claim 26.

Regarding claim 29, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 29, and specifically comprising the limitation of a PDP with a protective layer disposed on the filter layer comprising nano-sized metal particles adhered to oxide particles.

Regarding claims 30-31, claims 30-31 are allowable for the reasons given in claim 29 because of their dependency status from claim 29.

8. Claims 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Regarding claim 13, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 13, and specifically comprising the limitation of a filter layer made of oxide particles and nano-sized metal particulates is formed on the inner and outer surface of the face panel of a CRT.

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Regarding claims 14-17, claims 14-17 are allowable for the reasons given in claim 13 because of their dependency status from claim 13.

***Response to Arguments***

9. Applicant's arguments filed 5/13/04 have been fully considered but they are not persuasive.

Regarding applicant's argument that Hanak does not disclose the claimed limitations, the Examiner respectfully disagrees. The Hanak reference discloses a filter layer made of metal particles in an oxide. This satisfies the claimed structural limitations of a filter layer with oxide and nano-sized metal particulates. The surface plasma resonance phenomenon occurs when a filter layer selectively absorbs light at a predetermined wavelength. This is a property well known in all filter layers.

Regarding applicant's argument that claims 9-12 should not be rejected with a double patenting rejection, the Examiner respectfully disagrees. The Lee reference (USPTO 6,479,928) discloses all the claimed limitations in the specified claims above. Amending claim 9 to incorporate part of claim 10 still raises an issue of double patenting. Although the Lee reference does not specifically state that a surface plasma resonance phenomenon occurs, he does state that selective wavelengths are filtered, which has the same meaning as the applicants claim language.

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***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper  
Patent Examiner  
Art Unit 2879

  
**ASHOK PATEL**  
**PRIMARY EXAMINER**